# Virginia Wildlife

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COMMONWEALTH OF VIRGINIA
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COVER: Fox Squirrel by Ralph J. McDonald
Gallatin, Tennessee

# Editorial

## THE BALANCE OF NATURE

Natural balance has become the battle cry of many modern day environmentalists. The "Balance of Nature" is viewed as a harmonious, stable relationship. Before the appearance of man, the disruptions may have been less frequent, but let's face it. Oceans came and went. Species by the hundreds became extinct and natural calamities we can hardly imagine occurred. The only stability in the balance of nature is seen over a time span much greater than any of our lifetime.

Man's influence is today so wide-spread on the planet hardly any climax ecosystems remain. Whalers, sealers and caribou herders, not to mention native hunters, affect animal populations in Polar regions. Native cattle and agricultural land development threaten African game herds. The Great Amazon Forest is being felled to satisfy the need for lumber and agricultural land.

Gone are most of our country's large predators, our virgin forests and praries—man's influence is everywhere. In the short term, represented by the lifetime of those persons living, natural forces can do little to restore any kind of natural balance, especially in ecosystems where not all components are present.

Feral horses and burros protected by the wild horse and burro act threaten to destroy western range lands. Some horse fans say let them reach a natural balance with their habitat. What could be natural about it? They are both non-native species (though some even debate that). They exist on lands influenced by years of grazing. They compete with cattle whose numbers are determined by ranchers or by government grazing permits. They share the range with mule deer and pronghorn antelope whose numbers are controlled by hunting seasons and limits. With no predators or other effective controls on their numbers they are expected to fit "naturally" into such a setting.

If such a charade was allowed to progress to its chaotic conclusion, they would rapidly increase until they squeezed out cattle and game, then died themselves in catastrophic numbers. In the meantime they would eat up the range until it would take 100 years or more to recover, perhaps longer if soil damage was severe. This is the way the balance of nature works when all the pieces aren't present. "Natural" ecosystems are hard to find these days. Our Virginia deer herd is in a very similar situation. If not controlled by hunters, they would have to be shot by landowners by the thousands in self-defense.

Management is the only way to achieve balance under such circumstances. It is the application of human intelligence to direct natural processes to produce the desired result. Let us hope we can continue to apply intelligence to our environmental problems.—HLG

# Letters

## MISREPRESENTED FALCONERS?

The article, "The Age of Falconry Revisited" by John Traister in the September issue of *Virginia Wildlife*, does such a disservice to falconry. A picture of me was used (and miscaptioned at that—the bird was a Goshawk, not a Peregrine Falcon).

It is essentially a hawk-trapping story, and a misleading one at that. I particularly deplore the mention of steel traps, modified or not, for trapping hawks. Responsible falconers never use them.

Perhaps the greatest shortcoming of the article, is its misleading effect on the reader. It promotes the feeling that falconry is casual and anyone can do it. This is simply not so. The sport is rigidly controlled by both Federal and State laws.

Here are some of the regulations and restrictions facing a newcomer wishing to take up the sport:

1. He must have a "sponsor" who is a senior falconer to guide and teach him.
2. He must take and pass about a 3-hour comprehensive examination on falconry and the birds of prey which is administered by the Game Commission.
3. He must have his building for keeping a hawk indoors, built to certain specifications, and inspected/approved by a Game Warden.
4. He must have his outdoor weathering area fenced and wire covered, and it also must be inspected and approved by a Game Warden.
5. He must have his equipment, such as jesses, perches, scales, etc. approved by a Game Warden.
6. He must pay $50 per year, every year, for a Falconry Permit. If he hunts, a hunting license is required on top of this.

After the newcomer has complied with the foregoing, he may then and only then, trap a hawk.

Falconers for the most part, are responsible sportsmen who for years have urged the conservation and protection of all birds of prey.

*Alva G. Nye, Jr.*
Hampton

*The article may have been objectionable for what it did not say rather than what it did say. We have had articles in previous issues dealing with the fine points of falconry.*

*—Ed.*

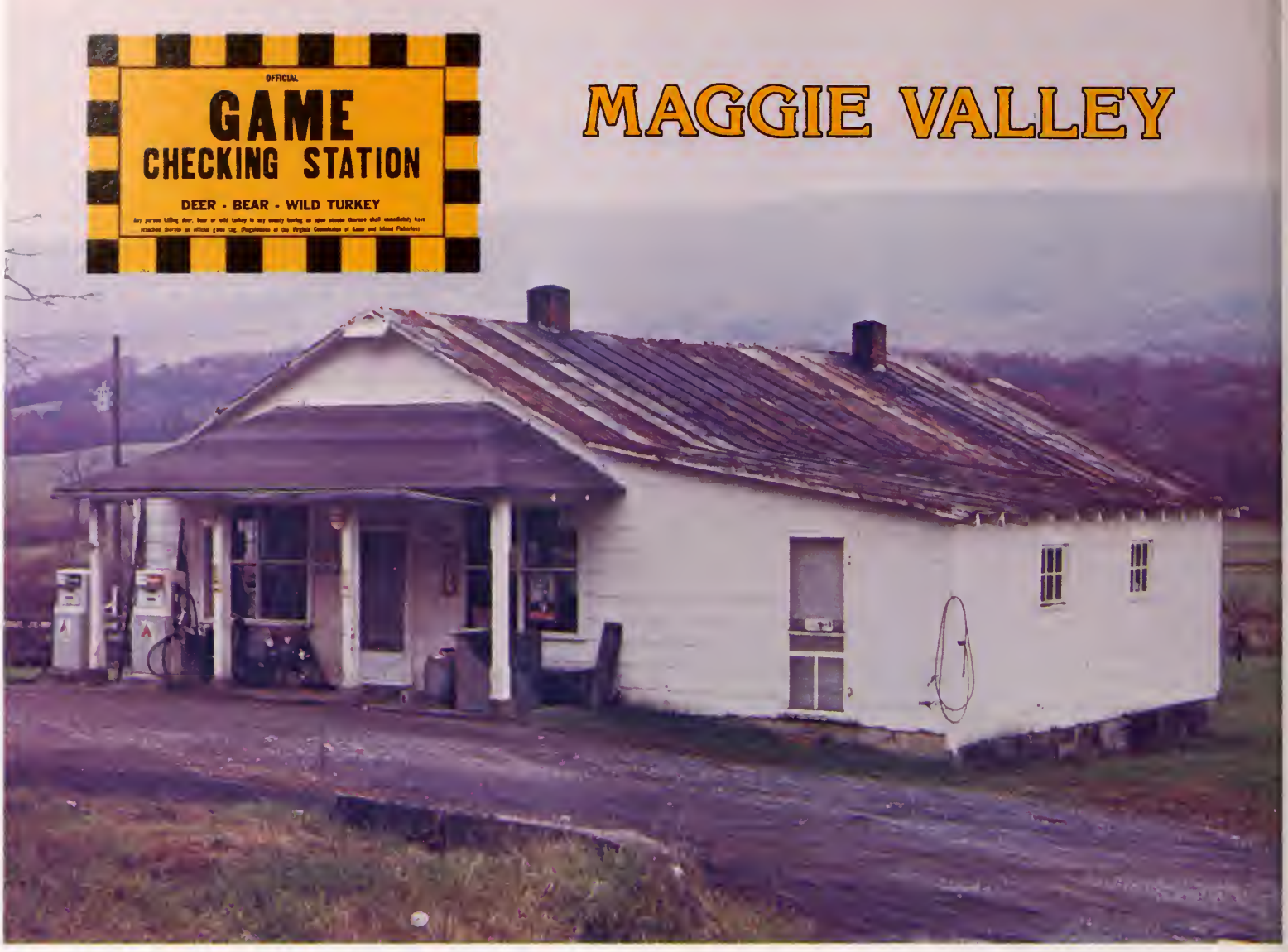
## COVER DECOUPAGE

I received with pleasure the September, 1977 issue of *Virginia Wildlife*. What I particularly appreciated about the magazine is that the magazine name did not overpower the art work on the cover. The magazine has some excellent art work in it from time to time and on many occasions I have wanted to decoupage the cover only to have the title of the magazine cover an important part of the cover illustration. If you keep the title small on the cover, as you did on your September issue, your magazine will provide many hours of decoupaging for your readers.

Thank you for a fine magazine.

*Thomas M. Di Giulian*
Decatur, Alabama

# MAGGIE VALLEY




*The Maggie Valley store is one of many remote outposts of the Game Commission. Such establishments donate their time and facilities to the biologists to conduct their research. Below, Accurate weights for yearling bucks are important in determining the condition of the herd.*

By ROBERT W. ELLIS

To the casual observer driving down Route 658 in November the normally sleepy little store in Craig County would appear to be a madhouse. The only visible explanation of the bustle and activity would be the sign discretely posted in the window: BIG GAME CHECKING STATION.

The general store is one of the Virginia Commission of Game and Inland Fisheries volunteer checking stations. Over 1,000 such general stores, filling stations or sporting goods stores contribute their time—and patience—and act as big game checking stations, all of this indicative of their interest in wildlife and their willingness to aid the cause of wildlife preservation in a concrete fashion.

These establishments annually contribute about $700,000 worth of free labor to the Game

Commission. According to Virginia law, white-tailed deer, wild turkey, black bear and the ring-necked pheasant must be checked. These stores carry out that law.

Game biologists and game wardens man the stations on certain days and collect technical data on the most popular game species, the white-tailed deer. On the particular day that I observed the Maggie check station, the biologists were there. It was the last day of the season and both buck and doe were targets—all of this created the ideal situation for conducting valuable research on the management of a deer herd.

I was a graduate student in Wildlife Management at VPI & SU and I jumped at the opportunity to aid at the check station. It was the perfect chance to gain some field experience.

When I arrived at the store it was 7:00 a.m., and already a beehive of activity. After a few sips of coffee, a state vehicle pulled up and out stepped Clarence Stebar a refuge supervisor for the New Castle area. After a short talk around the potbelly stove, Clarence and I unloaded a large platform scale from the back of his pickup truck and started the operations of the day.

One such operation was examining tooth wear on the lower jaw bone of deer. This technique has been used extensively in the wildlife profession for aging deer and other mammals. New York was the first to develop the technique and one of the first to use roadside check stations employing the procedure. Jaws of deer were opened using a "jaw-breaker" and the age determined by examining teeth erupting, missing, or the amount of wear on the molars. Comparisons are made to jaw bone charts which aid biologists in determining how old each animal is.

On this day we were to remove the lower jaws of 5 deer in each of three different age groups, 1½, 2½ and 3½ or older. The Game Commission wanted to make a comparison of the tooth wear and eruption technique to the more accurate but tedious technique of cross sectioning teeth. Cross sectioning involved slicing the root of the first molar or the first incisor and examining the section under a microscope. Annuli, similar to annual rings of a tree, in the cementum on the roots are laid down each year. By counting the number of annuli, accurate determinations of age could be obtained at all ages. The field technique is quick and easy. From these comparisons biologists hope to assess its value and accuracy.

The task of removing the jaws might sound easy and at first I thought of it as just another technique to be mastered. As it developed, the task was simple provided you could obtain permission from the hunter, keep your knife blade sharp, and were able to get the jaws to come out as planned.

By 11:00 a.m., however, Clarence and I had our 15 jaws, along with a few scraped fingers and sore arms. Shortly before 11:00 a.m. the supervisor of the Southwestern districts, Charles Peery, stopped by to gauge the situation at the Maggie check station. By noon we were working together weighing and aging the deer being checked in. Weights were taken on all 1½-year-old bucks. These weights, along with age classifications, allow biologists to ascertain productivity and the general physical condition of the deer herd.

Data obtained at check stations helps indicate the age composition of the deer population. Such data also indicates the degree of annual replacement of young stock, as well as the average life span and the rate of decline of various age groups. Life equations also calculated from kill records show seasonal changes in the population and their significance to the herd. Biologists use such information to predict if the trends in the deer population are rising, falling or remaining stable. Other information taken directly from the record cards include the type of weapon used, the county and the date. This information gives the biologist data on where and how deer are being harvested.

For many hunters, check stations are merely a troublesome delay before getting home. Compelled by law to stop at one, many hunters resent them. This day, however, I found most hunters willing and quite inquisitive. The success of check stations and the assurance of a healthy and huntable deer herd are directly related to the cooperation of all sportsmen. Without such information, biologists would be unable to manage properly the game species of the state and continue to provide the number of species we have at this time.

As the afternoon entered evening, the weather turned to a crisp wet snow. Hunters were still bringing in deer. About 7:00 p.m. it was evident that most of the hunters had checked in. The hectic day for both biologists and store keeper was nearly over. The final tally for the day recorded 111 deer and 2 turkey. Breakdown of the total number of deer in different age categories and other pertinent information was to be compiled and utilized for season dates, bag limits, and doe day designation for the coming season.

That day at Maggie taught me much about the management of game species. More importantly, however, it illustrated the important role biologists and sportsmen play in the successful operation of checking stations. The work of men like Clarence Stebar and Charlie Peery will enhance the proper management of our game species and allow hunting to continue for years to come. So as the day began in a hectic manner, it ended on a refreshing note knowing that the work done at Maggie that day would contribute to the welfare of the next year's herd.

# Getting a Head Start on GROUSE

By GERALD ALMY

A dense shroud of fog and low hanging clouds clothes the mountain peaks of the Blue Ridge near Linden, Virginia. Thin, penetrating drizzle settles over the truck, my gun, vest, and hat. There is a strange beauty in the misty thickness, an eerie grandeur about the slate grey timber as it protrudes from the drifting fog.

The towering tree tops chant in a muted clatter, like a choir of spirits echoing through the forest. But the thickness is intermittent. Alternating with it are moments of crystalline clarity that can only come in juxtaposition with the densest layers of clouds and fog. In the instants of clarity colors seem radiant. They are rich and deep, not with the glow of sunlight, but with their own inner essence.

It is opening day of the small game season in Virginia, and shots already lace the thick air from adjacent hollows. Bird hunters? Squirrel shooters? Some after a rabbit? The ever-present question weaves through my mind as I tread silently through the sodden woods.

The cover is familiar to me. For opening day I choose my favorite stretch. But it is also a public area--the Thompson Wildlife Management Area in northern Virginia. Late in the season grouse on public land will become fidgety and crafty, flushing wild, far from the gun or running like some rabbit fleeing the hounds. I must hit these coverts first, I tell myself, before the grouse become too wild to shoot at. When they do, I will hit the private areas where birds will not be unapproachable.

So goes the strategy! But I am in for a surprise which the first bird forebodes. I see her first, 40 yards or more away as she fidgets, takes three steps, and soars into the fog before I am in shooting range. Like a late season bird this grouse flew on the wind, vanishing in the mist far from the gun. Her wings beat the thick air with a raucous thunder that echoed doubly loud through the forest as it bounced back from the ground level clouds.

"A wild one!" I console myself. Someone must have flushed her already. Or maybe just an old timer from seasons past, schooled in the guileful ways of hunters.

But again the scene repeats itself. This time two fat, feathered rockets blast off from a blowdown, curving back through cover I have just worked, soaring off well out of gun range.

A fourth bird flees away unseen as I finish my second hour afield, sounding more like a quail than a ruffed grouse as he sneaks through the misty forest.

But there is no regret. No complaining from this hunter. Birds are abundant and I feel confident one will give me my chance.

Moments later this wish materializes. Lifting my head after ducking beneath a dripping grapevine, an exquisite image confronts me. Standing erect and proud, eyeballing me curiously, is a stately young cock grouse. The bird is not thirty feet from me. Fog shrouds the woods, but the grouse sits regally amidst a patch of intense clearing. The richness of his colors is awesome--the browns, black, tan, and rusts vibrant.

I hold my double ready, waiting for the flight. No such easy shot is in store, however. Instead the sly bird hops down and begins running. Immediately I set after him, determined not to let the grouse flee out of sight on foot before flying. Luckily 30 feet up the mountain I finally fly him in an arching sweep to the right. A quick charge of No. 8's catches him soundly and the first grouse of the season plunges to the moist brown forest floor.

Several minutes of admiring the bird ensue, followed by field dressing, before the grouse is pocketed in the game pouch. The hunt resumes.

But more birds are not destined to join the young cock. Three additional wild flushers--two together and one along-- complete the day. Such spooky birds this early in the season seems surprising. But when grouse stop surprising us, we'll probably turn to other game. I don't think there is any worry about this, though!

Other hunters are met, one working with a Brittany and two Maryland residents with a trio of exquisite English Setters. And the story is the same. "Such wild birds! Never saw them like this so early in the season. Must be the weather."

The pair of hunters with the Setters had moved ten birds in the morning alone and gotten only one shot between them. The Brittany owner lacked even this single opportunity. I feel lucky and grateful to have converted my single opportunity into a success.

A strange opening day! But not depressing. Plenty of birds. That is the core of an enjoyable grouse hunt. And we all felt sure a few dry, calm days would restore our close-flushing feathered friends to roust us out of our wits with the thunder of their raucous takeoffs. And they did.

*Pausing to flush a grouse in early season cover.*

# PRESSURE COOKING GAME

By SANDRA S. MEADOWS

In this age of shortages, eating the game from your hunting trip saves money. Preparing it in a pressure cooker saves time and electricity. While a pressure cooker is not an absolute necessity for the preparation of tasty game, it cuts cooking time by two-thirds. For the bachelor, the working woman, or the housewife time saved is always helpful.

Rabbits and squirrels, which tend to be tough, are fork tender when fried in a pressure cooker. To prepare, coat the cut-up pieces in seasoned flour and brown them in oil and melted butter. Add a cup of water, put the cooker lid on securely, and place the pressure gauge on the stem. Cook for 20 minutes after the pressure builds up and the gauge begins to rock back and forth. Allow the pressure to decrease on its own—that is, without cooling the cooker by setting it in water. Thicken the gravy if desired.

To prepare duck in a pressure cooker, brown the bird on all sides in a small amount of oil. Salt and pepper, place celery in the cavity, and lay a strip or two of bacon over the duck. Add a cup of water and cook under pressure for 30 minutes. After the pressure has dropped, remove the duck and put it in the oven for further browning. Thicken the gravy and crumble the cooked bacon into it. Serve with wild rice, which can also be prepared in a pressure cooker.

Venison roast, which takes much longer to cook than small game, can be done in an hour and a half in a pressure cooker, as opposed to three to six hours in an oven. And once you taste venison, you may never again want roast beef.

To prepare simply salt and pepper the roast, sprinkle it with garlic salt, place in the pressure cooker with a cup and a half of water, and cook for 60 to 90 minutes. If desired add whole potatoes, onions, and carrots. This can be done by allowing the pressure to drop, removing the top, adding the vegetables, and allowing the meal to cook under pressure for about 20 more minutes.

When using a pressure cooker the meat can be browned in the cooker itself. After browning the meat, the lid should be secured and the pressure gauge put on the stem immediately. Begin timing only after the pressure has built up and the gauge begins to rock back and forth. Never remove the lid until the pressure has dropped, which is indicated by the fact that no more steam escapes from the regulator.

If you own a pressure cooker, try using it for game cookery. If you do not already have one, it is a very worthwhile investment.

# THE SCENIC STAUNTON

Photography By:
ALLAN A. HOFFMAN M.D.

*In addition to its beauty, the Staunton River offers good canoeing and supurb fishing for striped bass.*

*Above: The coral berry grows along the Staunton. Below: Remains of navigation projects built in the 1920's are still visible in the river.*

Will the Staunton remain a scenic river or will it become part of a series of lakes that form a vast hydroelectric project? In the near future a decision will be made as to whether it will be sacrificed to provide for the mechanical storage of water used in the production of electricity.

The 1975 Acts of Assembly for the state of Virginia do designate the Staunton as a scenic river. It reads:

> "The river, stream or waterway known as the Staunton or the Roanoke from river mile 49.9 at the Brookneal Public Landing to river mile 60.7 at the State Route 761 bridge a distance of approximately 10.8 river miles, is hereby designated the Staunton Scenic River, a component of the Virginia State Scenic Rivers System."

However, the act must be reenacted by the General Assembly during the 1978 session, in order to become effective. The Staunton's future as a scenic river is decidedly uncertain.

To an angler who sets out on the Staunton on an early spring morning there is no question of the river's appeal. He has come, often from great distances, to catch the huge rockfish on their spawning up the river. Drifting easily, tossing a big hammered silver spoon toward shore, the only tension the angler feels is preparation for the strike and the battle with a 20 pound fish. Whoppers by most any river's standards, the rockfish annually run up the river from Buggs Island Lake. The 50 to 60 miles of free flowing stream needed by these fish to successfully spawn is provided by the river.

Fish taken here and raised at the Game Commission's hatchery at Brookneal provide fishing in other lakes where the rockfish cannot naturally reproduce.

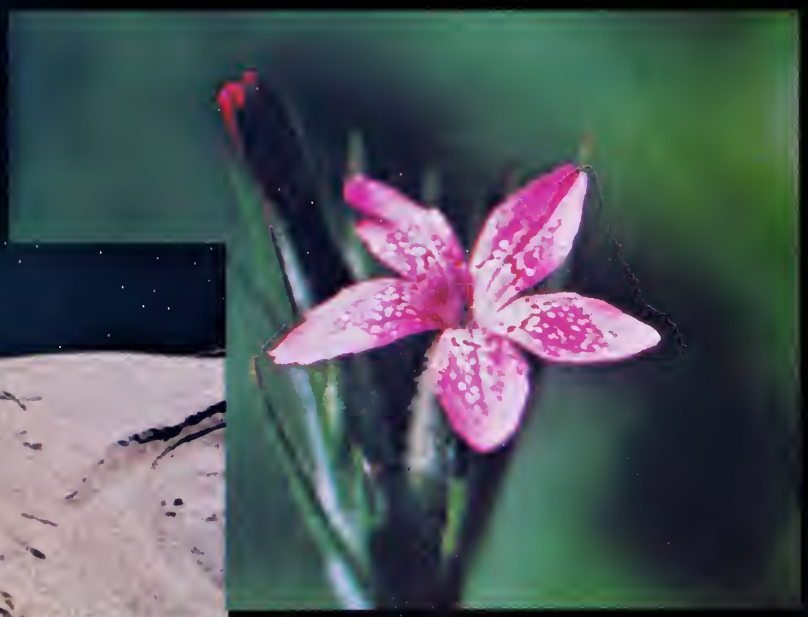
The river to others represents the challenge of white water; white water to be taken on by a fragile canoe shooting through old navagation channels and down some of the better stretches of canoeing water in Virginia.

Canoeists, fishermen and those who simply enjoy an area that has retained its natural beauty all enjoy this stretch of river. It is unique in this fast-paced time to find a bit of countryside that is as unspoiled as that which parallels the Staunton. Here wildflowers bloom in spring unfaded by industrial pollution and from the water, boaters commonly see deer drinking and raccoons washing a freshly caught fish. As these pages amply prove, the Scenic Staunton is a photographer's paradise that truly lives up to the designation scenic.

A scenic resource for Virginia or a source of hydroelectric power? The question may be answered soon and the Staunton may change, but, for now at least, it's a quietly beautiful river.

*Closeup of rabbit's-foot clover*

*Tracks in the sand indicate the area's abundant wildlife.*



*The Deptford pink*

# PATIENCE PAYS IN TURKEYS

By MARK MULLEN

Turkey hunting should be easy in the fall. For the intelligent hunter who has mastered a few basic concepts about the ungainly bird, success should be a foregone conclusion.

The birds are inseparable in the fall season. They roost, feed and water together. This makes them an easier target for the hunter.

First, check with your local game warden or conservation officer—or a fellow hunter with a little experience—and select an area with a known large population of turkeys. Plan to scout for about a week before the season begins. When you have decided on a place to pursue the birds, look for sandy and muddy places where you might be able to observe a few tracks. If you find two or three tracks, that is an indication that you have come upon a good area for gobblers. As you search for tracks, look also for droppings and for places where the leaves have been scattered indicating where turkeys have scratched for food. Larger and rounder droppings mean big gobblers, slimmer and longer droppings mean hens and young turkeys.

To successfully hunt old gobblers, you have to know their habits. They will never be with young turkeys unless they happen to come across them while feeding.

It is important to know how to scatter turkeys once you have found them. Run straight at them, shooting your gun into the air. Then get into some cover near the exact spot that you scattered them and wait for about an hour without making any calls at all. Then, make a series of soft, coarse clucks.

To the turkey that responds to your call, you are someone that was lost after the flock was scattered. Call when he calls, using the same call. Generally, he will come to you.

It is important to build a good blind. Most turkeys are harvested within 40 yards of the location of the separation. A stump, tree or rock serves as a good backrest and also shields you from someone that could sneak up on you and put an end to your turkey-hunting days permanently.

*Illustration by R. A. Knuth.*

Be alert to all sounds that might indicate that a turkey is approaching. If you hear the chatter of a squirrel or the caws of a crow, send out a "where are you?" cluck. If you hear a turkey, answer it with the same call immediately. But be careful not to call too much.

A good call can be purchased at any sporting goods store. You might also find an instructional record to be a valuable purchase.

When you are getting ready to shoot the turkey you have attracted, remain still and look only in the direction that you feel the turkey will head from. Listen for a soft call or the rustle of leaves, all of this telling you that the bird is approaching.

Camouflage clothing is strongly recommended. Have your shotgun loaded with high-powered or magnum 4's or 6's in an easy-to-reach position.

When you spot a movement and determine that it is a turkey, freeze and study the bird. If you are hunting in a gobblers only area, be sure that the bird is legal. Hens are smaller, trimmer and brown where gobblers are black.

Have patience until the bird is within sure range. Hold the bead where his neck and head meet and lightly squeeze the trigger.

Turkey hunting has a lot to offer to those willing to wait for their rewards. There is little to match the feeling of seeing the first fall turkey that you have attracted to your calls. But beware, turkey hunting is addictive.

# CHECKING ON GROUSE

By JOE L. COGGIN

Game Commission biologists have been conducting a survey for the last four seasons to try to determine the extent and reason for the apparent decline of grouse in the Commonwealth. The survey relies on extensive support from Virginia's grouse hunters.

Cooperators send to the biologists a wing tip and a tail feather along with a form designed to supply data on the number of hours hunted, number of grouse flushed, number of grouse killed and other related information.

Biologists can determine the age of a juvenile or adult grouse by checking the wing feathers and the sex by tail feathers. This information is used to establish a ratio of juvenile to adult hens, an indicator of production and rearing success. Another extremely important statistic is flushes per hour, a figure determined by dividing the number of hours hunted into the number of birds flushed. As indicated in Table I, the number of grouse flushed per hour has steadily decreased during the past four years and the number of juveniles per adult hen indicates that the reason for this is low productivity. The data simply reinforces what many Virginia grouse hunters have been saying for the past few years—grouse populations have been declining. This is one of the principle reasons the Game Commission changed the closing date of the grouse season from February 15th to January 31st and reduced the bag limit from three to two birds per day and from 15 to 10 birds per license year.

TABLE I. GROUSE SEX RATIOS, FLUSHES PER HOUR AND REARING SUCCESS 1973-74 THROUGH 1976-77 SEASONS

| Season | Percent Male | Percent Fem. | Percent Juv. in Harvest | Flushes Per Hour | No. Juv. Per Adult Hen |
|---|---|---|---|---|---|
| 1973-74 | 68 | 32 | 45.8 | 1.31 | 3.0 |
| 1974-75 | 67 | 33 | 26.0 | 1.00 | .9 |
| 1975-76 | 68 | 32 | 38.3 | .98 | 2.2 |
| 1976-77 | 64 | 36 | 20.0 | .72 | .9 |

TABLE II. JUVENILES PER ADULT HEN BY MONTH DURING 1973-76 SEASONS

| Month | 1973 | 1974 | 1975 | 1976 |
|---|---|---|---|---|
| November | 4.6 | 1.6 | 2.3 | 1.4 |
| December | 4.3 | 1.0 | 2.4 | 1.4 |
| January | 2.1 | .9 | 1.1 | .4 |
| February | 2.0 | .5 | 10.0 | .4 |

As the season progresses, the number of juveniles to adult birds decreases to only .4 in January and February, 1976 as shown in Table II. There may be a surplus of grouse during the early part of the season, but certainly not during the latter part when the grouse population is low. This means that long, late seasons exposing small groups of birds to protracted disturbance could have serious consequences. We need all the breeding stock we can retain under these circumstances.

TABLE III. GROUSE HARVEST SURVEY DATA BY MONTH DURING 1976-77 SEASON

| Month | Adults: Male | Adults: Fem. | Juveniles: Male | Juveniles: Fem. | Total | Flushes Per Hr. | Percent of Harves |
|---|---|---|---|---|---|---|---|
| Nov. (3 weeks) | 27 | 12 | 6 | 11 | 56 | .5 | 29% |
| December | 30 | 8 | 4 | 7 | 49 | .7 | 25% |
| January | 23 | 16 | 3 | 4 | 46 | 1.09 | 24% |
| Febr. (3 weeks) | 30 | 10 | 2 | 2 | 44 | .92 | 22% |
| TOTAL: | 110 | 46 | 15 | 24 | 195 | .72 | 100% |

The data in Table III from last year's survey reveals that about 46% of the total grouse harvested was taken during January and February. This is partly due to the fact that the grouse was the only forest game bird legal to hunt during those two months and thus all hunting pressure for forest game birds was absorbed by the grouse population.

Other information revealed by the survey was also enlightning. The average hunter day during the 1976-77 season was 4.3 hours and each hunter averaged 8.4 days during the season. They averaged flushing six grouse per day. They fired 905 times at 609 birds and harvested 36% of the birds at which they shot.

Approximately 78% used dogs all or most of the time. 50% were setters, 25% used brittany spaniels and 17% preferred pointers. There was one hunter each hunting with a poodle and sheep dog cross, a labrador retriever, a springer spaniel, and a beagle.

We received complete weather information on 496 out of a total of 540 hunting days. The following table illustrates hunter success during different weather conditions. The column labeled snow indicates that it was either snowing or snow was on the ground.

TABLE IV. WEATHER ANALYSIS 1976-77 SEASON

| Type of Weather | Percent of Total Hunters | Percent of Total Birds Flushed | Percent of Total Birds Killed | No. Birds Flushed Per Hunter Day | No. Birds Killed Per Hunter Day |
|---|---|---|---|---|---|
| 100% Cloudy | 7.5 | 7.4 | 6.0 | 3.1 | .4 |
| 50% Cloudy | 17.5 | 17.5 | 18.5 | 3.1 | .5 |
| Fair | 48.6 | 55.2 | 57.4 | 3.6 | .6 |
| Drizzle | 3.0 | 2.2 | .4 | 2.2 | .1 |
| Rain | 3.4 | 2.4 | 2.0 | 2.1 | .3 |
| Snow | 20.0 | 15.3 | 15.7 | 2.4 | .4 |

The survey did concretely reveal the low productivity, but it does not indicate the reasons for this condition. It seems clear that something is happening to the chicks between hatching time and the opening day of the hunting season. The losses are partly due to predation, diseases and the dispersal of young birds in September and October into coverts that are poor habitat for them. A transmitter study is now planned to follow as many broods as possible to determine the habitat at various stages of their lives and to try to determine the effect on the birds.

The Ruffed Grouse Society of America, the Commission of Game and Inland Fisheries and the cooperators have all worked together to make this survey as accurate and complete as possible, supplemented by funding from the U.S. Fish and Wildlife Service. This cooperative effort between hunters and game biologists to determine the condition of the grouse is still in progress. More cooperators are needed. All grouse hunters can help. Information can be obtained by writing:

Mr. Joe L. Coggin
Rt. 1 Box 239
Eagle Rock, Virginia 24085

# Conservationgram

GAME COMMISSION ANNOUNCES NEW ASSISTANT CHIEF FOR LAW ENFORCEMENT. Col. John McLaughlin has announced the appointment of Lewis Brandt to the position of Assistant Chief of Law Enforcement (Training and Administration). Lt. Brandt has been Assistant Supervising Warden for Education in the Richmond area. The position became available on the retirement of R. Stuart Purks. Major Purks will end his remarkable career with the Game Commission on December 31, 1977. Mr. Purks began as a game warden in 1938 and retires as Assistant Chief of Law Enforcement.

MUSTANGS ADDED TO CHINCOTEAGUE PONY HERD. Wild ponies from the West have been added to the pony herd on Assateague Island. The new mustangs, 38 in all, are reported adapting well to their new diet of marsh grass. The ponies at Assateague are owned by the Chincoteague Volunteer Fire Department and are auctioned each July after their famous swim across the channel to Chincoteague. The new mustangs are keeping to themselves and are not expected to join the island ponies until spring.

WHOOPING CRANES NOW NUMBER 114. From a low of some 14 birds in 1939 the whooping crane seems to be making a dramatic comeback. Much of the success of these big birds has been due to man's intervention. In some cases the birds have been artificially inseminated when they refused to mate and in other cases the eggs have been taken to be raised by foster parents. Now 69 adults and nine young comprise the main flock which nests in a remote area of the Northwest Territories and winters along the Texas coast. Five birds are forming a new flock in Idaho and there are some 26 birds in captivity. The new flock in Idaho is comprised of birds raised by sandhill cranes and they are expected to migrate with them to New Mexico, forming a new and separate flock of these rare birds.

DISMAL SWAMP PROGRAMS OFFER TOURS. Dismal Swamp Programs in conjunction with Bounty Rainbow Programs is offering tours and hikes into the Dismal Swamp.

Night Adventures in the Dismal Swamp: Now. 5. Do you like your skin to crawl? Like creepy fun and terror? Then go on a night trip into the Dismal Swamp and meet the ghosts and legends face to face. The adventure begins 7:30 p.m. and ends at 1:30 a.m.

Dismal Swamp Hiking and History: Nov. 19. Learn the interesting facts and fallicies behind the Great Dismal Swamp. Go hiking and learn first hand! Hike runs from 9:30 a.m. to 3:00 p.m.

Dismal Swamp Basic Tour: Oct. 22 and Nov. 12. A large area of the Swamp will be seen, with stops at interesting points for discussion of history and ecology. Tour runs 9:00 a.m. to 3:00 p.m.

Call Bounty Rainbow at (804) 489-6291 for further information.

FAIRY STONE LAKE CLOSED. Fairy Stone State Park near Stuart, Virginia is undergoing an extensive cleaning process at the present time. Cleaning of the lake became necessary when fishing results continued to decline over a rather long period of time. The cleaning process consists of draining the lake, with the useable fish being directed into the Philpott Reservoir. Draining began on October 1, 1977 and will in all probability continue until about October 15th.

After the draining and refurbishing is completed the lake will be refilled, an operation which will take approximately one month. Restocking of Fairy Stone State Park Lake will take place during the spring of 1978. At that time it is expected that bluegill, channel cat, redear sunfish and possibly some other species will be placed in the lake.

# TANNING HIDES FAST AND EASY

By JOHN BEARD *Illustrations by Diane Grant*

Not too long ago, I was given a deer skin and a bear skin by some friends. Considering myself a pioneering spirit, I set out to tan these skins in the same manner that my grandfather would have used.

A hundred pounds of salt, many hours and several tubes of Ben-Gay later, I decided that my grandfather either knew something that I didn't or he merely hated himself.

It was at this time that a friend of mine directed my attention to an old homesteader's tanning recipe. Skeptical at first, I experimented with a 'coon skin and, much to my amazement, it worked! I later tried deer, bear, rabbit and even several exotic skins and was happy to find that the solution worked for them all. The most amazing thing about the recipe is that it does away with the fleshing, stretching and drying of the skins.

The recipe is as follows:

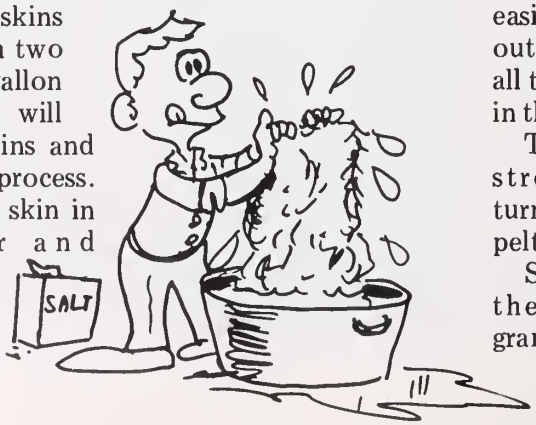
2 gallons of water
2 pounds salt (any kind will do)
2 ounces sulfuric acid (or 8 ounces battery acid)

Add the salt to the water in a nonmetallic container. (A crock or plastic garbage can will do nicely.) Then, tip the container and let the acid pour down the side slowly, into the water. Note here that acid is always added to water but water is never added to acid. Be careful not to let the acid splash. Stir the entire solution with a stick. At this point, the solution is dilute enough to be used safely and will cause no damage, even if it touches your skin.

If possible, solution should be kept around 70 degrees F. Higher temperatures may damage the skins while lower temperatures retard the tanning process. With the solution mixed, you're ready to begin.

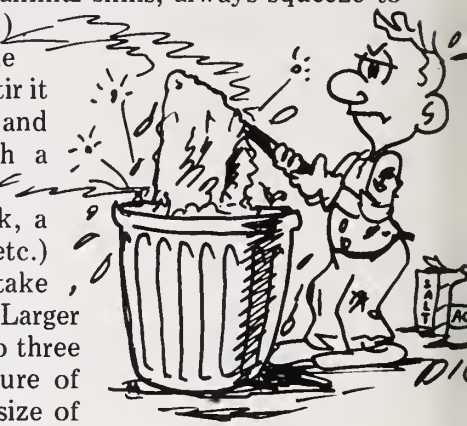
First, rinse the skins in cold water with two cups of salt per gallon of water. This will remove blood stains and aid in the fleshing process.

Next, wash the skin in warm water and detergent. Squeeze out the extra water.




(When working with animal skins, always squeeze to dry—never wring a fur.)

Finally, place the skin in the solution, stir it around with a stick and weigh it down with a nonmetallic weight (such as a clean brick, a jug filled with water, etc.)




A small skin will take about three days. Larger hides may take two to three weeks. The temperature of the solution and the size of the skins may cause variation in time lengths but this causes no serious problems. In fact, so long as the solution is stirred every three or four days, you can leave the skins in up to six months.

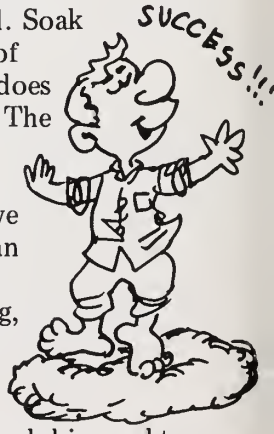
When the skin is ready, remove it, wash it in detergent and rinse it in cool water. At this point, you should be able to peel away the fat and flesh almost as easily as you would peel a banana.

Having completed that step, you're ready for the final tanning. Wash and rinse the skin again and put it back into the solution.

This time, leave the skin in at least a week or two. Once more, remove it, wash it, rinse it and squeeze it dry. Hang the skin in a dry, shady place and allow it to drip dry. If a clothes dryer is available, put the *damp* skin in, leave the heat off and tumble the skin. If no dryer is available, let the skin dry completely on the line.

Finally, after drying, you'll need to work the skin. To do this, you'll have to pull and stretch small sections of the skin until it turns from a stiff, brown hide into a soft, white hide. (If you used a dryer, much of this "working" has already been done.)

If the skin of a deer is to be turned into fine buckskin, the hair must be removed. Soak the untanned skin in strong milk of lime, making sure that the solution does not splash on the hands or in the eyes. The lime loosens the hair so that it can be easily pulled away. After the hair is out, wash very thoroughly to remove all traces of lime from the skin, then tan in the usual manner.




That's it! Without the scraping, stretching, drying, etc. you've turned a raw skin into a beautiful pelt—and it was pretty easy.

So, from now on, save your hides and skins and turn them into proud treasures—and if you have a grandfather, share the recipe. He'll love it!

# THANKSGIVING DAY BIRD COUNT

By MYRIAM P. MOORE

In nearly 200 homes across the Commonwealth of Virginia last year, preparing for Thanksgiving Day meant readying well-stocked bird feeders in the backyard, as well as getting the turkey ready for the oven. These householders were participants in the annual Thanksgiving Window Watch Bird Count, when watchers identify and list the birds which visit their feeders during any one hour of Thanksgiving Day. While most observers live in Virginia, 20 other states were represented in 1976, in the 11th annual count sponsored by the Lynchburg Bird Club and the Carry Nature Sanctuary at Sweet Briar College.

If you can spare an hour, 60 consecutive minutes, at your window on Thanksgiving Day, November 24, 1977, why not get set to join in the fun. Little effort is involved, yet the information you obtain (whether you see many or few birds, or none) will be valuable when compared with that provided by all the others. Let your birds be counted!

The approach is simple. Merely plot an imaginary 15-foot diameter circle on the ground around some

scattered grain or bird feeder(s) in a place you can conveniently observe from your window. Include a bird bath if you wish. Shrubs and trees are good attractors. Note the time you begin your count and over the next 60 minutes identify and count all the birds that come into your imaginary circle or into the space extending directly above the circle, up to the height of the tallest trees.

A few observers who make their feeder areas especially attractive to birds have reported up to 20 or more different kinds of birds in the circle in one hour. The usual number is much less, and some observers have reported no birds at all. Regardless of the number of birds observed, such counts are helpful in enabling us to complete the picture of the distribution and abundance of the familiar birds of our area. As exciting as it is to find an unusual bird on the count, it is both interesting and worthwhile to watch the trends among the common birds which appear on an "average" count. The average count would include 7 or 8 species of birds, with perhaps 3 or 4 individuals of some species. Among them would be cardinals, white-throated sparrows, chickadees, blue jays, dark-eyed juncoes ("snowbirds"), tufted titmice and house sparrows. The white-breasted nuthatch is likely to show up on the average count, and if suet is available the downy woodpecker will probably visit.

The cardinal has been the "number one" bird every year since 1972, appearing on 80% of all counts in 1975. The blue jay sometimes led the list in earlier years, but since 1972 has been seen on fewer counts.

The starling and common grackle are often seen together in flocks around the countryside in winter, but they show up quite differently on the Thanksgiving Count. Starlings appeared on nearly half of the counts in 1972, but have been declining steadily and in 1975 were reported by only about one-third of the observers. The common grackle has held steady at a much lower level, appearing on only 8 to 12% of the counts through the years.

The unpredictable, wandering habits of some kinds of birds show up when we analyze the accumulated data on the evening grosbeak. This colorful bird often comes down from the north to spend the winter. In 1972 the evening

*Common yard and garden birds, like this towhee, are the subject of this survey. Photo by Chris Marsh.*

grosbeak was seen by about 27% of the observers reporting, yet in all the other ten years of counts, they were never reported at more than 5% of the stations. In some of those "lean" years the evening grosbeak turned out to be quite common in Virginia later in the winter. In 1976, when the evening grosbeaks would presumably have been expected to come southward early if they had had any way of anticipating what a cold winter we would have, only 1% of the 270 observers who sent in their Thanksgiving Count reported *any* evening grosbeaks.

Thanksgiving Count information also documents the increase and spread of a bird of the western United States. The house finch was (accidentally or intentionally) introduced into the eastern states about 15 years ago. The first house finches were observed on the Thanksgiving Count of 1969. In 1976 there was an abrupt increase in the number of observers reporting house finches—from 10 to 20%. This increase put the house finch ahead of the purple finch, a native winter bird of this area, for the first time in the history of the Thanksgiving Counts. The increase in the abundance of the house finch may be partly explained by our now having more observers farther north, near where the house finch was first introduced. However, Virginia observers have been reporting larger and larger numbers of house finches.

The Thanksgiving Counts over the years have reflected the exciting, the dramatic and the humorous incidents taking place at bird feeders across the country, as well as the ordinary but still interesting occurrences. If you would like to join in this activity, to work independently on a larger group project, write to the address below for further information. Or just go ahead and make the count and send your results to Dr. Ernest Edwards, Sweet Briar, VA 24595 or Mrs. Myriam Moore, Lynchburg Bird Club, 101 Columbia Ave., Lynchburg, VA 24503.

# Observation Record Form

1. Observer's Name._____
2. Address._____
3. Date._____
4. Time (exact hour) of Count._____
5. Temp.____degrees F.
6. Weather-underline: 1. Sunny 2. Partly Cloudy 3. Cloudy 4. Raining 5. Snowing
7. Type of Feeder-underline: 1. Grain on ground. 2. Feeder, with some sunflower seed. 3. Feeder, any with seed other than sunflower. 4. Suet or suet mixture. 5. Other.

**Use this convenient tally sheet to record your observations. To participate in the official Thanksgiving Day count, detach and mail to, Dr. Ernest Edwards, Sweet Briar, Va. or Mrs. Myriam Moore, Lynchburg Bird Club, Lynchburg, Virginia. 24503.**

| Birds Observed | Magic circle | Other |
|---|---|---|
| Bobwhite | | |
| Mourning Dove | | |
| Common Flicker | | |
| Pileated Woodpecker | | |
| Red-bellied Woodpecker | | |
| Yellow-bellied Sapsucker | | |
| Hairy Woodpecker | | |
| Downy Woodpecker | | |
| Blue Jay | | |
| Common Crow | | |
| Carolina Chickadee | | |
| Tufted Titmouse | | |
| White-breasted Nuthatch | | |
| Brown Creeper | | |
| Carolina Wren | | |
| Mockingbird | | |
| Brown Thrasher | | |
| Robin | | |
| Golden-crowned Kinglet | | |
| Ruby-crowned Kinglet | | |
| Starling | | |
| House (English) Sparrow | | |
| Meadowlark (Eastern) | | |
| Red-winged Blackbird | | |

| Birds Observed | Magic circle | Other |
|---|---|---|
| Common Grackle | | |
| Brown-headed Cowbird | | |
| Cardinal | | |
| Evening Grosbeak | | |
| Purple Finch | | |
| American Goldfinch | | |
| Rufous-sided Towhee | | |
| Dark-eyed Junco | | |
| Field Sparrow | | |
| White-crowned Sparrow | | |
| Fox | | |
| Fox Sparrow | | |
| Song Sparrow | | |
| Black-capped Chickadee | | |
| Red-breasted Nuthatch | | |
| Cedar Waxwing | | |
| Yellow-rumped Warbler | | |
| White-throated Sparrow | | |
| Additional Species | | |
| | | |
| | | |

Comments, Notes

# DEER HOUNDS

## A Hunting Method Under Fire

By BOB GOOCH

One need only attend an annual hunting proposals meeting of the Commission of Game and Inland Fisheries to realize the deer hound is a controversial animal in the Old Dominion.

It is an unfortunate situation in which the long-eared, sad-faced often skinny dog finds itself. Its heritage is rich and old, and its popularity is by no means limited to eastern Virginia. Deer hounds are legal east of the Blue Ridge, but not to the west of the picturesque mountain range that serves as the east/west boundary for much of the hunting in the Old Dominion.

But the deer hound is not an animal peculiar to eastern Virginia. The rangy dogs are popular throughout much of the southeast, particularly in the coastal regions, and as far north as Ontario, Canada. "Some of our hunters would never get a deer if we didn't use hounds," Jerry Knap of Ontario told me recently.

The same logic has been presented at Commission meetings. Friends of the deer hound stress its value to the young and old hunters who can be placed on a stand with a reasonable chance of success. There is merit in this argument. The white-tailed deer is one of our wiliest big-game animals, and the novice is badly overmatched in a one-on-one situation.

I am not about to imply, however, that only inexperienced hunters employ deer hounds. Many of the top whitetail hunters in the Old Dominion are avid hound men. Success requires familiarity with the abilities of the hounds, and an understanding of the habits of the whitetail—where it is most likely to be bedded down, the likely escape routes it will follow so hunters can be placed on good stands, and the tendency of the wily old bucks to circle back and get behind the hounds that continue in hot pursuit of the does.

Another justification frequently put forth for the use of hounds is the dense swamp country that dominates the coastal areas throughout the southeastern United States. Stalking deer in these impenetrable areas can be a frustrating undertaking. But in Virginia, deer hounds are legal in the Piedmont region where swamps and impenetrable thickets are rare. And it is in the Piedmont where a good network of

roads favors road hunting that the deer hound has come under the heaviest fire.

While the increased chances of success for the inexperienced and the impenetrable swamps are the major justifications used in defense of the deer hound, is such justification really necessary—if the hunts are conducted properly?

A better reason is the pure joy that so many legitimate hunters derive from hunting with hounds. Thousands of legitimate Virginia hunters are avid hound men. They love the fellowship associated with a group hunt, the thrill of the chase, and most of all the lively notes of hound music on a frosty winter morning. The kill is almost secondary. Such hunters take pride in their fine hounds and guard their bloodlines carefully.

Over the years I have been on both sides of the deer hound controversy—often on the negative side. I have seen the abuses that poorly-conducted hunts can inflict on landowners, and the ill will they generate for hunting generally. But I have also participated in well-run hunts, warmed to the good fellowship, waited expectantly for a prize buck to burst by my stand, and thrilled to the melody of hound music.

I have also learned that tolerance is a quality worth developing in our land of free thinking and conflicting philosophies. I have never owned a deer hound and do not expect to own one, but I have no argument with the hunter who does and conducts his hunts legitimately.

For reasons peculiar to my approach to hunting I prefer to still hunt, watch a trail, or try to intercept a buck headed for a clearing at sunset, or to a bedding area at dawn. I also feel there is a need for a season in the east to accommodate this kind of hunting. The wholesale employment of hounds just about precludes it. If we accept the fact that there is a place in the Old Dominion for the deer hound—and I think there is—we must somehow reduce the constant controversy that swirls about the innocent canine.

The hound man must exercise control over his hunt—and this includes the hunters as well as the dogs. On the well-run hunt, hunters are placed on carefully selected stands, stands where experience has shown the chances for a shot are good. The hunters are instructed to remain on their stands until the drive is over. Moving about jeopardizes not only the hunter's chances, but his own safety and that of his fellow hunters as well. Too often this basic rule is ignored. Hunters, instead of taking stands, get in automobiles or trucks and use the public roads to intercept the deer. This is the practice that draws the heaviest fire from those who oppose hunting deer with dogs. While shooting from a public road is illegal, it is a law that is difficult to enforce.

Illegitimate hunters also use dogs to take advantage of posted land. They release their dogs on public roads or land they have permission to hunt, hoping they will route the quarry from the posted land and drive it to a highway.

Deer hounds, like most breeds of hounds, are independent and difficult to control when compared to pointing dogs and retrievers. Consequently, too many hunters make little effort to round up their pack at the end of the hunt. Stray dogs roam the country until someone picks them up and calls the owner. I have found seemingly lost, hungry deer hounds in the woods long after the deer season ended. Most wore tags with the owners name and telephone number.

Other hunters are generally tolerant of the deer hunter, but there are times when a little restraint on the part of the hound man could improve his image with his fellow hunters. A deer hunt can dominate a sizeable chunk of territory, rendering it temporarily useless for other hunters. This is worthy of consideration when putting down a pack of dogs.

Certainly there is no excuse for hunting on public roads, nor racing hounds across posted land. And while roaming hounds are more difficult to control, diligent efforts should be made to recover the dogs at the end of a hunt. Because of the nature of the hunt, deer hunting with hounds will always be subject to criticism in the more densely populated sections of Virginia, but it can be minimized.

There are also problems inherent to deer hunting with dogs—ones the hunter has less control over. For example a deer chase tends to attract illegal hunters, hunters not members of the party. They use the public roads in an effort to get ahead of the deer for an illegal shot. The legitimate hunter should keep an eye open for this type of hunter and help keep him off the highways.

In the patchwork pattern of posted and unposted land that exists across the state there will always be the problem of the independent hound getting on posted property, but this too can be minimized. If the conscientious hunter strives to prevent this the reasonable landowner is not likely to get upset.

One of the unfortunate consequences of hunting deer with hounds illegally is the damage it inflicts on hunting generally. Too many legitimate hunters—hunters completely removed from the deer dog controversy— suffer because of the illicit practices. Innocent small-game and bird hunters see posted signs go up on land they have hunted for years, and varmint hunters find themselves having to appear before local governing bodies to oppose efforts to ban the rifle.

The hound hunters owe it to their fellow hunters and hunting generally to clear up these practices that keep the controversy alive. At a recent hunting proposals hearing of the Commission of Game and Inland Fisheries many legitimate hunters appeared to defend the deer hound in the Old Dominion. They were successful. Now they are faced with a tougher job—that of cleaning their ranks of those hunters whose conduct made their appearance necessary.

# The Cost of It All

By GEORGE M. DODSON

This brief article has only one purpose in mind: to ease the sportsman's conscience when he feels he may have overspent on equipment. Even for the hunter or fisherman who daydreamed through arithmetic class because he already has his mind on weekends and vacations in the outdoors, this short course will help him catch up with essentials in expenses vs contacts with nature. It may give some ready answer to arguments on this subject, especially those centered around the effects on the family budget.

Most frequent and disastrous of the outdoorsman's calculations is likely to be the habit of lumping unusually high expenses into a single season. Except for the odds and ends, really important equipment cannot be purchased bit by bit. So the resulting bulge in financial affairs makes hunting and fishing appear immensely costly. This is not only unfair and unrealistic, but it could lead to a dollar-guilt complex—although seldom serious enough to cause the sportsman to refrain from buying.

The simplest solution is to add up all hunting or fishing expenditures over the past three years, and divide by three for an average. If the answer to this minor problem in mathematics still seems too high, tear up the original figures (we hope you have plenty of scrap paper handy) and try again with a five-year base. Or even ten years, if you find that necessary to reduce the average annual cost down to a level which permits you to get on with your outdoor activities without giving money a second thought.

Or, if you prefer to deal in the future rather than the past, you can utilize the depreciation method to put your mind at ease. Fortunately, the more expensive items are liable to have a long period of anticipated usefulness. Dividing the cost by the number of years you expect to enjoy this equipment before it must be replaced, you arrive at a very soothing amount to charge against the present season. This depreciation principle works out very well for business and industry. Sure, they employ it in connection with taxes and profits, but there's no logical reason why you cannot apply similar mathematics to the pleasure and relaxation you seek outdoors.

Should you be challenged on the basis of cost per hour for hunting and fishing, don't jump at the obvious answer, which undoubtedly will be far too high. Instead, add all the time you found fun and entertainment while planning your next expedition. That will reduce the price tag considerably. A little harder to figure, but still worth the effort, are the happy memories and recollections you'll bring along home. Let your imagination roam. By the time you have added in the enjoyment to be gained when recounting hunting and fishing stories to your grandchildren, you'll have cut the hourly rate to just about nothing—in addition to having left your critics without a single sensible argument to dispute your claims.

Current out-of-pocket expenses can scarcely be approached from a three-year-average angle, nor does depreciation serve very well. There are, however, some new tricks you may have overlooked. For instance, take your son or a neighbor's son along with you,

*Sam Lee Hall brought down this deer last season.*

and you trim the dollars per man-hour in half. (Well, not exactly, but we aren't going to complicate matters by using other than round figures, are we?) It would be nice if we could show you how to put a financial value on helping close the generation gap, but you'll have to accept this situation as merely another fringe benefit.

Quite plainly, mathematics of the most elementary sort that will prove an ideal method for holding down next season's expenses consists of nothing more clever than hoarding some non-perishable supplies from present purchases. Eventually you may increase the carry-over accumulation to the point where you have a practically vanishing expenditure for one year. Use the savings for going overboard for equipment. Or, equally satisfying, pull out those figures to astound your family and friends with the low cost of hunting and fishing—at least during an occasional planned-for year.

*This buck was taken by Doug Long on Stone Mountain.*

# Wormy Fish?

We get letters, and phone calls, from anglers who have caught "wormy fish" and are concerned that the fish have some kind of disease or other harmful problem. We asked Jack Hoffman, Chief of the Game Commission's Fish Division to write a few words about this problem.

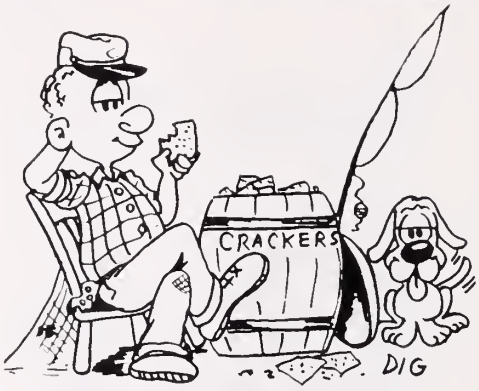
"Wormy" or "grubby" fish are the result of an infestation by trematode worms of the genus clinostomum. The young immature worms encyst in the muscles or beneath the skin of fishes and frogs and often cause wart-like bumps or protuberances. There is absolutely no danger of the worms infesting human beings even if some should be swallowed alive. However, when fish contain large numbers of these parasites there is naturally a strong prejudice against eating them.

The study of the life cycle of the parasite shows that it is dependent upon fish-eating birds and snails for completion. When a fish-eating bird, such as a heron or bittern, eats a wormy fish the young worms grow to maturity and remain attached to the throat or mouth of the bird. Each worm lays countless numbers of eggs which pass through the bird and are often deposited in water. Here the eggs hatch and the minute worms penetrate, if present, some species of snail. In this host the parasites undergo further changes and emerge from the snail in a form that can penetrate fish. If a suitable fish or frog host is encountered, such as a perch, bass or sunfish, the parasite enters, encysts and causes the grubby condition. The heaviest infestation occurs during the summer months, and by late Fall all worms leave and the fish are free from these parasites during the winter. Infestations with even great numbers of worms do not appear to be fatal or to injure fish to any noticeable extent.

Wormy fish are encountered in wild lakes and streams over a wide area including Canada and the condition is not in any way connected with pollution. As shown above, the life cycle depends on the snails and fish-eating birds, and heaviest infestations are found in shallow waters where birds, fish and snails are most closely associated. It is certainly not a new disease for it was first described by Leidy in 1856 and no doubt was present when the white settlers set foot on American soil.

# IT APPEARS TO ME

## BY CURLY




. . . .A PERSON OUGHT TO HAVE ONE!

That ole villain "Energy Shortage" is bound to take some licks if you will take advantage of what the good folks down at the Tennessee Valley Authority have to offer, free. Seems as though they have gathered together a passel of pamphlets all of which are aimed at saving energy and money. These little booklets, which can be requested from the address listed below, bear the following titles: Conserve Energy and Save Money By Using Electricity Efficiently; Heat Pump-The Energy Miser; Installing Home Insulation; Detecting and Controlling Moisture Problems in the Home; Insulate for Savings and Comfort; Conserving Electricity in Commercial Blds.; Industrial Guide for Electricity Conservation; Your Electric Meter and How to Read It; The Super Saver Electric Home Program; Annual and Monthly Electric Energy Use and Cost. The following buying guides are also available: Electric Heat Pump, Food Disposer, Electric Range, Electric Dishwasher, Washer & Dryer, Trash Compactor, Refrigerator & Freezer, Room Air Conditioner, Microwave Oven. The address where these pamphlets are available is: Tennessee Valley Authority Information Office, 400 Commerce Ave., E12D46, Knoxville, Tenn. 37902.

Parade Publications, Inc., P.O. Box 168, Dept. F Kensington Station, Brooklyn, N.Y. 11218 has an Information Center in which they list materials which are free for the asking. In that regard they recently listed two items which deal with the energy problem and which could be right useful. The American Way, Fuel-Saver Book No. 414 and Intertherm, Engineered Layout & Brochure No. 421 are the names of the booklets.

YOUNG PEOPLE'S ATTITUDE TOWARD WILDLIFE is the title of a study done in conjunction with the Michigan Department of Natural Resources and the efforts of a young candidate for a Masters Degree. The study speaks to the subject of the attitude of children in grades 7-12 regarding wildlife. If you will contact Howard A. Tanner, Director, Michigan Department of Natural Resources, S.T. Mason Building, Lansing, Mich. 48926 you can obtain a copy and learn what the young'uns are thinking these days.

. . .AND FOR YOUR BOOKSHELF

Striped Bass fans attention! A former Virginia resident, outdoor writer, frequent contributor to Virginia Wildlife Magazine and a recognized expert in the piscatorial art has written a book which should warm your hearts. Press-fresh last month "Catching Freshwater Striped Bass (The Fish of the Future)" was authored by Pete Elkins. Pete has put together a fantastic amount of information about technique, baits, locations (by state) and a wide variety of other data about this "fugitive from the saltwater." It is obvious that "Pee-tah" not only enjoys fishing for stripers. . .but has done his homework on the subject. Available from EMP Publications, Inc., 1003 Turkey Run Road, McLean, VA 22101 this photo-sprinkled 165 pages sells for $9.95.

Some issues back I spoke about how another Virginian had "done it again" after she had published yet another item about cooking things wild. So. . .history has repeated itself and Joan Cone *has again done it!* This time the lovely lady with the prestigious pen has come out with a handy little pamphlet-size publication entitled Delicious Game Recipes. In it you will find forty-two all new recipes which are guaranteed not only to please your palate but your purse as well. For a stunning sample of her magician's manner in the kitchen, do yourself (and your guests) a favor and get $2.00 off to Joan Cone, Box 242(Dept. S), Williamsburg, VA 23185. By return mail you will receive Delicious Game Recipes, postpaid, and the assurance that, by following her easy and proven methods, you can't go wrong.

. . . .AND THEN

For you history buffs, especially those of you that are interested in old time photography, it would be well worth your while to get in touch with the National Archives, Washington, D.C. 20408. Those folks have got some of Mathew's (Brady, you know) photos put together in some fancy portfolios that they will sell right cheap. Just thought you might want to know.

# FLANNAGAN'S FEUD

By BOB GOOCH

## Hatfield-McCoy Country Harbors Fantastic Fishing

At an elevation of almost 1500 feet, the John W. Flannagan Reservoir in far western Dickenson County is the highest major reservoir in the Old Dominion. Formed in the deep canyon of the Pound River high in the rugged Appalachians, it is long, narrow, and deep. Most of the year its waters are crystal clear.

Flannagan is not a border lake, but it is so near the Kentucky border echoes from the Hatfield-McCoy feud rang through the now flooded canyons a half century ago. Just recently Joe Lee Baker's Dickenson County newspaper, *The Cumberland Times*, ran a serial on the famous feud.

Baker is also an angler, and it was through him that I met Jim South — also of Clintwood. And South introduced me to Flannagan Lake, unveiling a few of its secrets.

It was a bright day in May when we launched Jim's boat at a neatly maintained U.S. Army Corps of

*This large intake riser extending out into the lake is a familiar sight to Flannagan fishermen.* *Photography by the Author.*

Engineers launching ramp and headed up the lake to sample some of Jim's favorite fishing waters. The blue water sparkled beneath the early morning sun, but the high visibility worried me. Crystal clear lakes are among the toughest to fish.

Several miles from the launching site we cruised into the long, narrow Cranesnest Arm. A steep, thickly forested shore lay ahead, and as we approached it Jim switched from the gasoline motor to a quiet electric motor mounted on the bow.

Even as I was still engrossed in studying the rugged hills, pale green beneath an azure sky, and the blue water lapping against the rocky shoreline, Jim South had a frisky Flannagan largemouth bass ready for the stringer.

"I fish light tackle and thin lines in this clear water," he told me as he removed the bass and prepared to toss his Mister-Twister plastic worm back into Flannagan's chilly waters. I watched closely as an accurate cast dropped the little worm within inches of the boulder-studded shoreline.

"Walk it down the shore for 10 or 12 feet, and then fish it all the way to the boat," my partner advised as I copied his tactics.

We settled down for some serious fishing, edging slowly along the shore, covering every inch of the likely water.

"When I get a strike I drop the rod tip, reel in the slack and strike hard," Jim told me when I asked when I should set the hook.

Moments later I was halfway through a retrieve when I felt a soft tap on my line. Excitedly, I followed Jim's advice, dropped the rod tip to the surface, reeled in the slack—and struck.

*A contemplative Bob Gooch waits here for a strike while a Flannagan fish waits for an eager fisherman.*

The consequence was like touching the button on a charge of dynamite!

The fish bolted at the sting of the hook, dove for the depths, struggled violently, and shot for the surface. It broke through fighting, head shaking, and dancing on the sparkling surface.

Only then did I realize the scrappy bass was no lunker. But it was full of fight and vigor from life in the icy water.

After the initial flurry of action I played the fish to the net, and it joined Jim's bass on the stringer.

The action held through the morning—nothing fabulous, but strikes came often enough to keep it interesting. Our stringer grew.

Jim South is an ardent angler, and the largemouth bass is his favorite quarry. He makes frequent trips to the famous TVA lakes to the south in Tennessee, and occasional jaunts to Florida's lunker bass waters. Buggs Island Lake is his favorite lake in eastern Virginia, but he also fishes Gaston and Smith Mountain Lakes.

And while Jim is keeping up with those western bass, his son, Dr. Gregg South, a resident physician at the Medical College of Virginia, finds time in his busy schedule to keep tab on the eastern fish. An occasional tournament angler, he was in the boat with Al Linder at Buggs Island when the Minnesota angler won the Virginia Invitational and a big pay day in March 1977. Linder credits South's recommendation of a purple worm for his success.

Except for the scores of enthusiastic local anglers, Flannagan is probably better known among anglers from neighboring Kentucky, West Virginia, and Tennessee than it is to Virginians.

Many Old Dominion anglers are missing a unique and challenging fishing experience.

The big mountain lake is now almost 15 years old. It was started in 1960 and completed in 1964. Flannagan was built to control the often raging and devastating flood waters on the Pound and Big Sandy Rivers and Levisa and Russell Forks.

Flannagan is not large as flood control reservoirs go, but its 250 foot dam forms a 1,200 acre lake that

stretches for almost 15 miles up the Pound and Cranesnest Rivers.

The Corps of Engineers maintains several excellent launching ramps at strategic points around the lake.

Possibly the most popular is the Junction Site on the main stem of the lake just below the confluence of the Cranesnest and Pound Rivers. Besides a concrete ramp it has restrooms, drinking water, and adequate parking space. It is on the eastern side of the lake. A concessionaire with rental boats, tackle, bait, and refreshments, is located a few hundred yards up the lake from this launching site.

Across the lake and a bit downstream is the Lower Twin Site, also with restrooms, ramp, parking area, drinking water—and picnic facilities.

Far up the Cranesnest arm is the Cranesnest Launching Site. It is approximately 10 miles from Clintwood, the county seat of Dickenson County, and a base for many visiting anglers. The Cranesnest Campground complete with sites, restrooms, and showers, is a few miles upstream from the Cranesnest Site.

Another interesting camping possibility is nearby Breaks Interstate Park operated jointly by the states of Virginia and Kentucky. There the Russell Fork River has carved the largest canyon east of the Mississippi River. Living accommodations include a large, well shaded campground and a comfortable motel and restaurant. It makes an excellent base for fishing Flannagan Lake.

The largemouth bass is the star of Flannagan's clear waters, waters that seem more appropriate for the smallmouth. The lake does not produce many lunkers. Clear mountain lakes seldom do, but it does give up some good bigmouths every season.

Even though smallmouth bass have long finned the waters of the Pound River, there appear to be few bronzebacks in the lake. Good catches are rare. Flannagan is one of Virginia's better walleye lakes, however, and the walleye is frequently a lake mate of the smallmouth. The fish are a real challenge in the deep waters of the mountain reservoir.

While striped bass have been introduced to Flannagan's waters as they have to so many Old Dominion impoundments, the striper fishing has never flourished.

The crappie fishing is tops and it challenges the bass fishing for popularity among local anglers. Jim South also knows his crappie fishing, and we took some good ones that bright May day fishing around debris and the crowns of fallen trees—good crappie water anywhere. Jim gives the crappie populations a boost occasionally when he carts home some live fish from the Tennessee lakes where the slabsided fish grow big.

The catfish is another local favorite, and periodically photos and stories of good catches make the pages of *The Cumberland Times*. Some of the best catfish anglers in the state live in Dickenson County.

The Commission of Game and Inland Fisheries stocks the lake periodically with trout, but consistent success with the popular fish calls for deep water tactics.

A Clintwood angler took a citation musky from Flannagan one recent summer, and every spring spawning run produces prize white bass in the 2- to 3-pound class.

*Typical of Flannagan's rugged shoreline.*

Jim South likes April and May as the prime months to fish Flannagan's blue waters, but he says October and November are also good. There is probably some fishing every month of the year. Night fishing is popular during the summer months.

The successful Lake Flannagan angler will develop and perfect clear water angling techniques. This means light tackle, thin lines and small lures of subdued finishes. The goal is to combat the high visibility which gives the fish a critical look at the lure, line, and even the angler.

Weather conditions that break up the surface of the water are always helpful as they help conceal the angler. Cloudy days when there is a light rain are good. So are days when a light breeze keeps a ripple on the surface. Fishing can also be good in the dim light of dawn and dusk when visibility is poor both above and below the surface.

Shallow water is scarce in Flannagan Lake, but it tends to concentrate the fish. A depth finder helps here, though local anglers have learned of such spots from experience.

Local anglers also like to fish natural baits—live minnows for bass, and nightcrawlers for trout and walleyes. Many do so successfully.

Located high in the western mountains Flannagan Lake is over 400 miles from the golden sands of Virginia Beach, but even the angler with brine between his toes can drive it in a day—and he doesn't need a nonresident license to fish the lake!

# GHOST OF THE HEATH HEN

By KIRK H. BEATTIE

The heath hen was the eastern version of the greater prairie chicken. The square-tailed game bird had long tufts of feathers on either side of its neck and an orange-colored air sac on its throat. In early Colonial days the heath hen ranged over the New England states from Massachusetts to the vicinity of the Potomac River in northeastern Virginia.

Male heath hens (cocks) gathered on communal booming grounds during the springtime and performed courtship rites before gatherings of hens. The cocks "boomed" by inflating their orange-colored air sacs and then expelling the air forcefully to produce a hollow, resonant sound.

The writings of early authorities suggest that the heath hen was behaviorally similar to the blue grouse of Western states. It was very easily approached and could be shot with little difficulty; it flew in a straight line and when a flock was flushed the birds would rise one or two at a time, giving a hunter shots at individual birds until he ran out of shells. Jay Williams, author of Fall of the Sparrow, told of hunters strewing ashes on the spot where a flock usually gathered, waiting for the birds to beat their wings and raise enough dust to blind themselves, and then rushing them with sticks.

The heath hen was frequently used as a basic food staple in early Colonial days. In fact, servants often had to persuade their employers not to feed them heath hen more than several times a week.

The heath hen began to decline drasticallly in the early 1800's despite legislation enacted as early as 1791 to protect the birds from meat hunters during the spring and summer months. Market hunting, unrestricted shooting, and destruction of its habitat had eliminated it from the New England mainland by 1840. By the early 1870's it had been completely exterminated from New Jersey and Pennsylvania, and by 1880 it was confined to Martha's Vineyard.

An 1890 census uncovered only 200 birds. A forest fire on the island in 1894 destroyed most of the bird's breeding habitat, and by 1896 there were fewer than 100 heath hens remaining on Martha's Vineyard. Another severe forest fire reduced the number to 77 in 1907 and led to the stocking of 21 birds on a 1600-acre sanctuary to protect the surviving birds.

A warden was hired to guard against poaching and to kill predatory cats, hawks, rats, owls and crows; firebreaks were cut in the woods; and food crops were planted to encourage growth of the small population. By 1916 it appeared as though the heath hen might be saved. There were close to 2,000 birds on the island. However, another disaster struck again in 1916 in the form of a raging May forest fire. The fire, a grueling winter, and an eruption of goshawks had reduced the population to 105 birds in 1917, most of them males.

With only 25 heath hens remaining in existence in 1925, an extra warden was hired to control the natural enemies of the birds. Heroic attempts were made to stave off the approaching extinction of the heath hen. The new warden went outside the boundaries of the sanctuary and wiped out cats, crows, hawks, and owls. Rabbits were introduced on the island in an attempt to lure predators away from the heath hen. A fear that domestic poultry might be infecting the birds resulted in the removal of poultry from the island. A small number of heath hens were relocated on the mainland but the transplant did not take hold. The birds never recovered from the decimating occurrences of 1916.

The following account, written by James Trefethen in An American Crusade for Wildlife, tells of the last days of the heath hen:

> *Each spring, Dr. Gross spent a lonely vigil in a blind commanding a view of the heath hen's principal dancing grounds where most of the island's population congregated to carry on their strange mating ritual. In the first few years, the flocks of survivors fluctuated between three and a dozen. But in 1930, only one lone male appeared. In 1931, the bird reappeared to go through its pathetic mating dance, and Gross was aware that he was eyewitness to the death of a zoological race. In 1932, the bird reappeared. In 1933, there were none.*

The tragic loss of the heath hen underscores the need for laws and regulations governing the harvest of wildlife. But it is not enough to simply enact laws. They must be enforced. Protective regulations to control the taking of the heath hen were adopted as early as 1791, but the laws were not enforced or were not enforceable, and thus, the heath hen became extinct.

Sportsmen of the time should not be blamed for the demise of the heath hen. Sportsmen and their organizations managed to get potentially beneficial laws passed. That was not enough. As with the passenger pigeon, unscrupulous hunters, market gunners, a belief that natural resources were boundless, agricultural versus other interests, and habitat destruction played their part in the unnecessary loss of a zoological race, the heath hen.

It is good to do some soul-searching now and then. We lament the loss of the passenger pigeon, the heath hen, the great auk, the Carolina parakeet, and most probably, the ivory-billed woodpecker. But soul-searching is not enough unless it leads to positive action. Hopefully we have learned some valuable lessons from the mistakes of previous generations. Reflection is good, but a futuristic attitude is imperative.

# Personalities

Edited by F. N. Satterlee

*Yvonne Schultz, fish culturist, displays examples of the two fish which are crossed to produce the tiger muskie.*

Yvonne Schultz is the first woman fish culturist ever to be hired by the Commission of Game and Inland Fisheries and she is mighty proud to "be on board." This charming young lady was born in Alexandria, Virginia and feels fortunate that both her parents came from rural areas and have passed the love of the outdoors on to her. Her father began taking her fishing when she was quite small and as she grew, taught her about hunting and firearms.

Her early summers were spent on her grandfather's farm in Pennsylvania and later she helped in the summer recreational programs which were sponsored by the Fairfax County educational system. This consisted of teaching crafts and nature lore to grade school youngsters.

Following graduation from Fort Hunt High School Yvonne entered James Madison College in Harrisonburg, Virginia where she majored in Biology and minored in Geography. While attending JMC she was instrumental in beginning a Biology Club, was Secretary for two years and President for one. During May of 1976 she received a favorable response to a job application which she had sent to the Game Commission and upon graduation was hired as a Fish Culturist and assigned to the Buller Hatchery near Sugar Grove, Virginia.

Now some 1½ years later her greatest satisfaction is derived from the research project in which she is engaged. This project involves experiments with the production of Tiger Muskies. . .a cross of the Northern Pike and Muskellunge. During 1977 approximately 15,000 of the Tiger Muskies were stocked in Virginia waters and it is anticipated that by 1978 or 1979 the fish will have attained legal size for harvest.

Yvonne feels that she and her co-workers in the Fish Division are achieving their goals and that there is a great deal of reward in observing sportsmen and women proudly catching fish that she has helped raise as a much desired, renewable resource.

# Learning About Leaves

*Illustrated by Diane Grant*

"Amy, you can't do that," Matt shouted to his little sister as she sprang into the pile of neatly raked leaves. He had spent over an hour getting the fallen leaves into that small pile and now they were scattered into small wispy groups. But it did look inviting, he pondered. Matt soon followed Amy and the two of them frolicked in the leaves for quite some time.

"I have to get these back together," Matt told his breathless sister.

"I'll help," said Amy and she soon was busy scooping up small handfuls of leaves and placing them into the quickly growing pile.

As Matt raked the leaves he began to wonder what caused the leaves to turn different colors and fall from the trees every year. "Amy, I sure would like to know why the leaves fall and what kind of leaves each of them are. I think that would be a fun project, don't you?" he asked his busy little sister.

Amy was happy to fall in with her big brother's plans. Matt had begun the very month before to identify the geese flying past on their yearly migration. Amy had been a little envious of the fun he had been having and was ready to join in the game.

The next day at school Matt visited the library and talked to the librarian, Miss Duncan.

"What's your project now, Matt?" Miss Duncan asked him.

"Well, I want to learn about leaves and about why they change color in the fall," he replied.

"That is an interesting subject, indeed," the librarian said. "Let me help you find some books to get you started."

"I am really anxious to begin," Matt told the interested librarian. "Is it the same process for every tree? Do oak trees and walnut trees go through the same steps even though they are different?" he questioned.

"Well, why don't you do some research and tell me?" Miss Duncan replied.

"Okay, I will!" Matt said. Already he was anticipating the fun to be had when he could walk along with friends and point out the different kinds of trees and colored leaves.

That night Matt read and studied the tree identification books that he had gotten. He was particularly interested in just what exactly happens to the leaves to make them change color from their deep green to the reds, yellows and oranges visible in the autumn trees.

"Hey, Amy, I found out what makes the leaves turn," Matt said sometime later to this little sister.

"What happens to them?" said the five-year-old.

"The way the trees produce their food is called photosynthesis," Matt began.

"Photo what?" Amy asked with a puzzled look on her face.

"Photosynthesis. Chlorophyll is a big part of this process and it is what gives the leaves their green color. In the winter, the leaves produce less chlorophyll and then other kinds of substances in the leaves show up and they make the leaves either red, yellow or orange," Matt explained to his sister.

Matt and Amy began to pick out and identify the leaves they saw on their walks and their play time outside. Matt even started to take pictures of the trees in their colorful fall clothes.

"I sure do like fall," Matt said to Amy. "But still, I like winter, spring and summer."

Amy watched her big brother knowingly and smiled to herself.

# THE BLUE JAY

By JOHN W. TAYLOR

Though he is called a thief and a scoundrel, and behaves at times with uninhibited rascality, the blue jay must rank as one of our most attractive birds. Few birds outside the tropics are as strikingly colorful.

Watch one as he swings to a perch in a flaming October oak. The wings and the tail fan open to show jewel-like azure, set amid a scintillating pattern of jet blacks and pure whites. The back and the head are different blues, shading into purple. A black collar encircles the head and the throat, and a saucy crest lends a touch of elegance to the whole outfit.

And the jay wears it with confidence and high spirits. Boldly, he screams attack plans to his cohorts, or heaps cries of opprobrium upon a luckless owl, caught abroad in daylight. A favorite trick is to mimic the call of a hawk, possibly to clear the smaller birds away from the feeder, or simply as an ego booster.

These imitative calls are an addition to the usual repertoire of loud, strident shrieks, so associated with the species (and from which the name "jay" is derived). Though, to human ears, they sound quite alike, they express a wide range of meaning to other blue jays. Another note, less frequently given, is a clear, two-syllabled whistle.

Such vocal prowess is characteristic of the family *Corvidae*, to which the blue jay belongs. About 100 species belong to this group, ranging the world over (except in New Zealand). Much in their behavior suggests a highly developed mentality, and some ornithologists believe they represent the highest stage in avian evolution.

Jays in captivity display exceptional intelligence. Like the raven and the crow, they can mimic human speech, and even pronounce words with some distinctness. And they show the same mischievous predilection for collecting and hiding objects that interest them.

Yet the blue jay retains a bad name, largely because of his reputation as a bully and a consumer of the eggs and young of smaller birds. Such villainous tactics *are* employed at times, but much of the resentment against him is the result of a bad press.

Many people base their anti-jay feelings, to some extent at least, on Audubon's portrait of the bird: a blood-thirsty scene, depicting ruthless invaders breaking and devouring the eggs of a smaller bird. And the artist's accompanying text is equally as indicting, referring to the birds as rogues and thieves.

In fact, nestlings and eggs of other species are an insignificant item in the diet of the blue jay. Of nearly 300 stomachs examined in a government survey, only two showed the remains of young birds.

The study revealed that nuts and acorns are the staple food of jays, not only in autumn, but throughout the colder months, when they make use of caches, hidden away for future use. Corn and sunflower seed, provided at feeders is also relished. Grapes and cherries are eaten in season, but not extensively. Some animal food is taken, such as grasshoppers and caterpillar, and even mice on occasion.

Softer foods are fed to the young, which usually number from 4 to 6. The nest, deeply cupped and usually placed in a conifer, is composed mainly of large twigs, lined inside with grasses, feathers and whatever is handy (rags, paper, string, etc.). The eggs vary in color, but are generally dull greenish with brownish markings.

Blue jays nesting in Virginia are most likely not the same individuals with us in winter. Local breeders move to the south before cold weather sets in, and northern jays move down to take their place. Banding returns indicate that the majority of our winter jays are from New England and Pennsylvania.

During late April and early May, many blue jays can be seen making their northward pilgrimage. Moving by day, not at night as most songbirds do, they fly at moderate heights across open spaces and watercourses, and move through the treetops in wooded areas. Fall migration peaks in October, when flocks can be seen passing along the mountain ridges. Smaller numbers migrate along the coast.

JOHN W. TAYLOR

# Tree Vines

By ELIZABETH MURRAY

*Illustrated by Lucile Walton*

One day, after a particularly arduous morning fighting the honeysuckle in her yard, I heard my mother-in-law remark that if she were allowed to redesign her environment, she would make a world that had no vines in it. Under the circumstances she was, I think, fully justified in her extreme position. However, in such a world there would be a dearth of some very attractive plants and I should like to take time now to talk about a few of them.

Vines are not necessarily parasites but they do depend for *mechanical* support on other plants and structures. A vine could be defined as a plant whose main stem cannot stand up by itself and it must either trail along the ground or climb, wind and entwine around other plants, trees, walls, rough ground and anything else available. A vine which winds regularly round a stem or pole usually does so in the same direction, i.e., clockwise or anticlockwise, throughout the species, but there is little foundation for the popular tale that plants which wind in one direction north of the equator will do so in the opposite direction south of the equator. In the yam (*Dioscorea*) the twist is always clockwise (viewed from the top), while in the bittersweet (*Celastrus*) the twist is always anticlockwise. Darwin made a close study of twining plants and timed the movement of the tip of a bindweed (*Convolvulus*) plant while it waved around, as it were, "feeling for support." The time for each rotation of the tip was somewhere less than two hours.

*Gonolobus carolinensis*, the angle pod, is not at all the sort of plant one would expect from a milkweed, yet it does belong in that family, the *Asclepiadaceae*. Close examination of the pod and the flower will reveal the usual milkweed characteristics. *Gonolobus* comes from the Greek *gonia*, an angle and *lobus*, a capsule. The flower, complete with corolla and the standard milkweed *corona* is a deep reddish-purple. Leaves are simple and opposite as is characteristic for the family, they are heart-shaped and slightly hairy. The fruit pod is covered with quite pronounced projections. Angle pod is another plant which likes alkaline soil and can be found sporadically on limestone banks and in rich thickets throughout the southern states.

Moonseed, *Menispermum canadense*, belongs in its own family, the *Menispermaceae*, all members of which are dioecious, that is, male and female parts occur in different flowers. The staminate flowers have 12-24 stamens, 6-8 short petals and 4-8 slightly longer sepals. Pistillate flowers have similar sepals and petals, and there are 2-4 pistils raised on a short common receptacle, (see detail on moonseed illustration). The fruit has a curious incurving growth pattern characteristic of the family, forming a crescent-shaped seed for which the plant is named (Greek *men*, moon and *sperma*, seed). Leaves are simple, palmately lobed and sometimes slightly peltate, that is, attached to the stalk by the lower surface. The vines grow luxuriously along stream banks and other rich moist habitats throughout the eastern United States. The fruits ripen in September, looking—but be warned, only *looking* like grapes, rich black with a fine "bloom." They are, however, quite poisonous and fatalities have occasionally been reported in children. The easiest distinguishing feature is the single "new moon-shaped" seed in each fruit whereas grapes will have many, ovoid seeds; but if in doubt, steer clear of tasting.

When my English mother first came to visit me in Virginia, she went straight into the yard and started weeding. Since she is a very knowledgeable and successful gardener, I was happy to see her there, but was rather amused when she announced that she had carefully preserved the few pieces of honeysuckle she found and eradicated everything else! (She has learned our Virginia flora better now.) But, as I compared this with the feelings of my American mother-in-law, I decided that there was probably a compromise world between the two, a world in which we can live with, and enjoy our attractive vines without being totally overruled and strangled by the more aggressive ones!

# Try a FALL Nature Cruise

*Here are a few ways to make fall boating some of your best days on the water*

The approach of fall weather signals a change in activity for boaters. Water skis are racked until next summer, fishing tackle is cleaned and put away and for some boaters, it is time to store their rigs for the winter. But for a great many others, fall opens a new season of water activity that is every bit as satisfying as the previous summer's fun.

Although direct water contact sports are ruled out because of cool air and cold water, the opportunity to use your boat is expanded by the number of things to do and the probability of fewer boats on the water.

Many fall activities involve the changing world of nature as birds, animals and trees prepare for the long winter ahead. They suggest that a fall boat outing is an ideal way to observe and learn more about nature. Children especially enjoy exploring by boat, and a fall nature cruise can be a unique adventure.

A few books, a picnic lunch and some binoculars are all that is needed to make a successful nature cruise. Local bookstores will have regional editions of bird, animal and plant identification guides. Try to have several pairs of binoculars so that members of the family can observe and enjoy the same things together.

Youngsters also enjoy collecting and pressing colorful leaves which make an ideal exhibit for classroom discussion.

There are many different ways to enjoy your boating during the fall. Imagination and a few easily obtained materials are all that's needed to create an interesting and, perhaps, unforgettable day on the water.

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